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ABSTRACT

This survey was conducted to determine what geography materials, i.e., maps, globes, and atlases, were available in the public elementary school media centers in four Area Education Agencies in Iowa; the adequacy of these geography instruction tools for supporting the goals of the social studies curriculum; and the frequency of requests by faculty and students for these materials. Questionnaires were sent to 41 elementary media specialists in public elementary schools in the four agency areas. Analyses of the data provided by 30 respondents (73%) indicate that: (1) a wide variation exists in the numbers of maps, globes, and atlases in the collections of the responding media specialists; (2) regardless of the differences in reported quantities, media specialists generally regarded their collections as adequate to support the social studies curriculum in their individual school systems; and (3) a wide variation exists in the frequency of requests for these items by students and faculty. No firm conclusions could be reached about the number of maps, globes, and atlases that would be needed to provide adequate curriculum support; rather, it would seem that media specialists stretch their resources to meet their needs. Appendixes include a cover letter; the data collection instrument; and a map of Iowa's area education agencies. (17 references) (CGD)

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A SURVEY OF MAPS, GLOBES, AND ATLASES IN ELEMENTARY SCHOOL MEDIA CENTERS IN FOUR AREA EDUCATION AGENCIES IN IOWA

A Research Paper

Presented to the

Faculty of the Library Science Department

University of Northern Iowa

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

Leon D. Carson

July 1985

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ABSTRACT

A Survey of Maps, Globes, and Atlases
in the Elementary Media Centers in
Four Area Education Agencies in Iowa

Leon D. Carson

This research study was conducted to learn what media specialists in four Area Education Agencies in Iowa have on hand for geography materials; specifically, maps, globes, and atlases. Additionally, the study explored the adequacy of the geography resource (map, globe, or atlas) in support of the social studies curriculum, and the frequency of requests by faculty and student for maps, globes, and atlases. A questionnaire was sent to forty-one certified library media specialists in four Area Education Agencies (1, 6, 13, 16) in Iowa. Responding media specialists numbered thirty.

Data showed 60% of the respondents had map collection of "0-9" maps. A total of 70% judged the map collection "about right" in supporting the social studies. A total of 73% of the media specialists responding cited requests for maps as "occasional" or "seldom."

A majority (57%) of respondents reported three globes or more per collection. A total of 70% of the respondents rated their numbers of globes as "about right" to support the social studies, and 73% cited globe request frequencies of "occasionally" or "seldom."

Data on atlases revealed a wide diversity in numbers of atlases per collection. Responses for atlas numbers tallied as follows: "0-2," 3%;

"3-4," 17%; "5-6," 28%; "7-8," 28%; "9+," 24%. A strong response (77%) was received in the category "about right" regarding adequacy of the atlas collection in supporting the social studies. A majority (53%) of responding media specialists picked the categories "very frequently" or "frequently" as they pertain to requests for atlases.

The results of this research study suggest that a wide variation in numbers of maps, globes, and atlases exists in the collections of responding media specialists. However, respondents generally rated their collections of maps, globes, and atlases as at least adequate to support the social studies curriculum in place in their school systems. On the question of faculty and student requests for maps, globes, and atlases, a wide variation exists, ranging from "never" to "very frequently."

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CHAPTER 1

The Problem

Introduction

Map skills have long been considered an integral part of the social studies curriculum and a key tool in the study of geography. Educators have realized the unique value of map studies, in that such studies utilize both spatial and verbal stimuli. Additionally, map learning tasks require that all information to be learned be presented simultaneously. Thus, the student incorporates reading skills, spatial skills, and selective choices of problem subsets in one flexible learning activity. Indeed, the acquisition of map skills is almost universally included in school curricula in our culture and has been used by Piaget as an accurate indicator of spatial reasoning development.[1]

Traditionally, maps are used as back-up reference sources in the social studies. However, such limited use of maps does not begin to employ the full potential of this unique learning tool. Charles E. Current points out the importance of map usage and study beyond the obvious, immediate reasons. "Maps are usually regarded primarily as place media but their scope is not limited to showing geographic

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[1] David H. Feldman, "Map Understanding as a Possible Crystallizer of Cognitive Structures," American Educational Research Journal 8 (May 1971): 486.

locations. By employing combinations of diverse symbols they also visualize many other important topics such as ethnic relationships, physical, social and economic conditions, and historical, artistic, and literary development."[2]

Map skills studies continue to illustrate the importance of such activities beyond the three basic geographical skills: the ability to make maps, obtain information from them, and correctly interpret the information. Many psychological studies of map skills are actually more concerned with relevant abilities including frames of reference, spatial orientation, measurement, symbolization and manipulative ability.[3] Unlike many other reference sources, the map is a form which crosses all disciplines and all subject areas.

As the importance of maps in schools is recognized, acknowledgement must be made of the map's role as a learning tool in the school media center. The school media center often serves as the primary depository and reference area for maps for the school, as well as the allied learning tools, globes and atlases.

Problem Statement

Documentation and justification for purchases of specific kinds and quantities of maps, globes, and atlases have not been forthcoming. The

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[2] Charles E. Current, "The Acquisition of Maps for School," Wilson Library Bulletin 45 (February 1971): 578.

[3] Judith Meyer, "Map Skills Introduction and the Child's Developing Cognitive Abilities," Journal of Geography 72 (September 1973): 27.

best single source issued so far is Social Studies, K-6, A Guide for Curriculum Revision, which recommends:

> Globes: 1 per teaching station plus 2 for media center, with additional special globes as needed.
>
> Maps: Sufficient quantity and variety to meet the needs of the curriculum; may be in various formats, such as transparencies, flat, and wall maps, and must be up to date; number of duplicates will be determined by the number of sections of a particular grade.[4]

Media Programs: District and School lists recommendations for "Graphics," but the suggested 800-1200 items include posters and art prints, as well as maps and globes.[5]

In regard to the elementary media center, the question of numbers of maps, globes and atlases thus warrants some attention. The purpose of this study was to seek answers to three questions:

1. What quantities of maps, globes, and atlases are currently in the collections of elementary media centers in four Area Education Agencies in Iowa?
2. Do the elementary media specialists view their holdings of maps, globes, and atlases as adequate to support their districts' curriculum goals in the social studies?
3. How often do the elementary media specialists receive faculty and student requests for maps, globes, and atlases?

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[4] Lloyd L. Smith and Joan Schreiber, Social Studies, K-6, A Guide for Curriculum Revision (Des Moines: Iowa Department of Public Instruction, 1971), 148.

[5] American Association of School Librarians and Association for Educational Communications and Technology, Media Programs: District and School (Chicago: American Library Association, and Washington, D.C.: Association for Educational Communications and Technology, 1975), 75.

Hypotheses

The following hypotheses were tested, based upon the responses of elementary media specialists in public schools in four Area Education Agencies in Iowa:

1. A majority of elementary media specialists will respond that: a. the map holdings are "20 to 29"; b. the number of maps in the collection is "about right"; c. they "seldom" receive requests for maps.
2. A majority of elementary media specialists will respond that: a. globe holdings are "one"; b. the number of globes is "about right"; c. they "seldom" receive requests for globes.
3. A majority of elementary media specialists will respond that: a. the atlas holdings are "three-four"; b. the number of atlases is "inadequate"; c. they "occasionally" receive requests for atlases.

Importance of the Study

If media centers are to provide meaningful and rewarding experiences for students and adequate support for the social studies, learning materials must be present in sufficient quantity. Certainly in the social studies, maps, globes, and atlases are primary instruction tools. This study was an attempt to gain an understanding of the quantities of maps, globes, and atlases elementary media specialists consider necessary to support the social studies curriculum.

The National Council for the Social Studies very aptly stated the argument for geographical resources: "Learning in the social studies

requires rich resources . . . Students must have books, periodicals, basic references, case studies, graphs, tables, maps, articles, and literary materials suitable for the subject at hand."[6]

Iowa State School Law 257.25 states that, among other subjects, geography of Iowa and the United States shall be taught in grades one through six.[7] Further justification for having geographic materials in the media center comes from the North Central Association of Colleges and Schools: "The program shall consist of a balanced collection of print materials, nonprint materials, and instructional learning equipment and supplies adequate in quality and quantity to meet the needs of the children in all areas of the school's program."[8] This study is thus an inquiry into the reality of the phrase "adequate in . . . quantity" as it relates to maps, globes, and atlases.

The researcher was unable to find published studies about quantities and adequacy of geographic materials. Thus, this study examines an area where any findings assume some importance.

Assumptions

This study was based upon the assumption that the school media center is one of the logical storage and use areas for many maps, globes, and atlases. It was further assumed that the media center

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[6] Richard Osborn, "Revision of the NCSS Social Studies Curriculum Guidelines," Social Education 43 (April 1979): 271.

[7] Smith, op. cit., 155.

[8] Policies and Standards for the Approval of Elementary Schools, 1975-1976 (Chicago: North Central Association of Colleges and Schools, 1975), 23.

professional will have a working knowledge of his/her collection and what it contains. Finally, most map skills instruction takes place in the elementary grades.

Limitations

This study was limited to only the public elementary school media centers in four Area Education Agencies in Iowa. Private schools, such as church sponsored schools, were not included in this study. The survey was sent to professionals working in the media centers as identified in the Basic Education Data Survey list. Elementary media centers staffed by paraprofessional aides or volunteers were not included. Geographic materials not specifically falling within the definitions of maps, globes, and atlases were not surveyed. Data about maps, globes, and atlases in classrooms and separate social studies collections were not collected. Finally, limitations of the questionnaire type of survey instrument also applied.

Definition of Terms

Various definitions exist for the following terms. For this study, an attempt was made to balance precision of definition while avoiding overly narrow phraseology.

Elementary School - Any attendance center which includes any combination of kindergarden and grades 1-6, but excludes grades 7 and above.

Media Specialist - A person with appropriate state certification and broad professional preparation both in education and media and with competencies to carry out a media program.

School Media Center - An area or system of areas in the school where a full range of information sources, associated equipment, and services from media staff are accessible to students, school personnel, and the school community.

Area Education Agency - An established, merged area, governed by a board of directors, and possessing boundaries which are conterminous with the boundaries of the merged areas as provided in chapter 280A of the School Laws of Iowa. The AEA Board shall be responsible for providing educational services and programs to pupils enrolled in public and nonpublic schools within its boundaries.[9]

Atlas - A collection of maps bound into a volume.[10]

Globe - A spherical model of the earth.[11]

Map - The representation on a flat surface of all or part of the earth's surface, to show physical, political, or other features, each point on the diagram corresponding to a geographical position according to a definite scale.[12]

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[9] Iowa Department of Public Instruction, School Laws of Iowa (Des Moines: State of Iowa, Dept. of Public Instruction, 1978), 1345-1346.

[10] Moore, W.G., A Dictionary of Geography (London: A.C. Black, Ltd., 1978), 13.

[11] Longman Dictionary of Geography (London: Longman Group, Ltd., 1970), 170.

[12] Moore, op. cit., 142.

CHAPTER 2

Review of the Related Literature

Research surveys dealing with map quantities in elementary media centers have not been published. Aside from a few rather broad recommendations made by educational organizations and state departments of instruction, little guidance is available regarding quantities of maps, globes, and atlases in elementary media centers. This may be a nebulous area of study since much of the data relating to the value of maps in the instruction process is conflicting, as will be seen in the following overview of map research studies. A scarcity of research studies regarding map quantities may exist because research on the value of map instruction has not been conclusive.

Empirical evidence of the utility of maps supporting geographic text has been stated (Davis and Hunkins, 1968).[13] In the original report, subjects were 538 junior high school pupils enrolled in grades seven, eight, and nine. Pupils were randomly assigned to either a treatment consisting of a narrative with accompanying map or a narrative only. After fifteen minutes of study, students were asked to complete the criterion test. On first analysis, it appeared that the group using

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[13] O.L. Davis, "The Usefulness of a Map With Geographic Text: A Reanalysis of Experimental Data," Journal of Geography 70 (May 1971): 303.

both the map and narrative scored observably better than did the group working from a narrative only.[14]

However, reanalysis of the test data using a more powerful statistical method yielded different results. Reanalysis of findings lead Davis to conclude that a map with text does not appear useful to junior high students in the absence of specific instruction.[15]

Haig A. Rushdoony analyzed and drew tentative conclusions from thirty-seven pre-1960 map skills research studies. Rushdoony concluded that there tends to be a grade to grade progression in children's ability to read maps; that map errors result from a lack of systematic instruction; and more stress needs to be placed on what can be learned through systematic instruction. However, Rushdoony qualified his conclusions with the inclusion of three limitations common to map studies: lack of longitudinal research; too few studies involving multiple classes for one or two semesters; and lack of research from the southern United States.[16] However, Rushdoony's findings have been open to debate primarily because of his narrow interpretation of the research data.[17]

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[14] Ibid., 303-304.

[15] Ibid., 305.

[16] Haig A. Rushdoony, "A Child's Ability to Read Maps: Summary of the Research," Journal of Geography 67 (April 1968): 214.

[17] Barbara S. Bartz, "Maps in the Classroom," Journal of Geography 69 (January 1970): 19.

A basic tenent of map skills instruction and research is that the less cluttered the map, the easier it is to understand. This concept together with steady, systematic instruction over a period of four weeks lead Atkins to conclude that significant improvement in map skills in four and five year olds is possible. The most dramatic of this study's findings was the comparison of correct map question responses (29.25% to 67%) between control and experimental groups. These findings were reinforced in a later replicated study.[18]

Research by Piaget and Inhelder tends to support the contention that until the age of nine, a child cannot coordinate his/her egocentric viewpoint into a projective view of space.[19] If true, this could effectively contradict the conclusions of the study by Atkins.

Conflicting research results are, no doubt, partially due to the three limitations cited earlier by Rushdoony. Additionally, a researcher's pre-conceived biases and environment may unwittingly influence his/her results. Fairness to the spirit of equitable, unbiased research is a worthwhile and necessary goal, but one not always achieved when human traits enter in. Finally, only very tenuous and tentative conclusions should be drawn from studies of maps which require simultaneous student use of many skills: reading, writing, sequential organization, and memory, to name a few.

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[18] Cammie L. Atkins, "Introducing Basic Map and Globe Concepts to Young Children," Journal of Geography 80 (November 1981): 232-233.

[19] Jean Piaget and Barbara Inhelder, The Child's Conception of Space (London: Routledge and Kegan Paul, 1956), 241.

The basic conflict surrounding the value of having and studying maps in the elementary grades appears to be one of tradition. Most educators and media specialists say that they value maps and mapping, but conclusive evidence of student performance is lacking. Maps are in use in great numbers, but it appears exposure in the elementary grades is not synonomous with comprehension or use. Many educators are of the opinion that map study is a transferable skill and an important communication tool, but little research has been done in this area.

As a curriculum priority, social studies has been given decreased attention. In one study, primary teachers reported that they averaged twenty minutes per day for social studies compared to ninty-five minutes for science.[20] A low classroom priority may also translate into few support materials in the media center.

Structured experiences may influence learning and development, and these are the main concerns of the educator. If for no other reason than that the basic and very important concept of "over there" is only an extension of "here," structured map experiences have value in social studies and therefore in the media center.

No mention regarding geographical materials was made in the most recent survey of school library media centers in 1978. While expenditure and numerical figures abound in this survey, geographical

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[20] Project SPAN Staff, Social Studies Priorities, Practices and Needs (Boulder: Social Science Educational Consortium, Inc. 1982), 84.

items are never given any separate and distinct position, and the researcher may only guess at quantities.[21]

Another in-depth look at school libraries suffers from the same shortcoming. While the researchers investigated school media expenditures in depth and noted types of purchases in sixteen separate categories including permabounds and realia, they did not think it necessary to separate numbers and expenditures for maps, if indeed they obtained such data.[22]

Information is available for quantities of maps held by the Iowa Area Education Agencies. Although it is beyond the scope of this paper, it is instructive to note that the number of maps held by the individual area schools in the AEA system varies from 0 to 268, with an average of forty-six per area school library.[23]

Justification for geography resources has been reported in the literature. This survey will extend beyond that into a previously unexplored facet of school media centers: what numbers of maps, globes, and atlases are held in the working collections of elementary media specialists in sample AEA's in Iowa?

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[21] Heintze, Robert A., and Lance Hodes, Statistics of Public School Libraries/Media Centers, (Washington: National Center for Education Statistics, 1981).

[22] Miller, Marilyn L., and Barbara B. Moran, "Expenditures for Resources in School Library Media Centers, FY 1982-1983," The Bowker Annual of Library and Book Trade Information, (New York: R.R. Bowker Co., 1984): 367-383.

[23] Data On Iowa's Area Schools, 1973-74, (Des Moines: Department of Public Instruction, 1974), 1.

CHAPTER 3

Methodology

This study was conducted to determine 1. how many maps, globes, and atlases are in media centers, 2. how adequate are the map, globe, and atlas collections, 3. what is the frequency of student and faculty requests for maps, globes, and atlases? For the sake of clarity, "adequate" in question two above was defined by each individual media specialist.

To answer these questions, a survey questionnaire was constructed around the three primary media center support tools for the study of geography: maps, globes, atlases. The questionnaire consisted of an instructional preface and three sections, to cover quantities of materials, adequacy of resources, and frequency of requests for materials.

The instructional preface briefly explained the purpose of the survey and also included directions for marking and returning the questionnaire. If a media specialist served more than one center, he/she was asked to select a representative media center, and base the questionnaire responses on that center. A "representative center" may have been the media specialist's only center, or it may have been the largest center, or possibly the center where the specialist had his/her office, or the center with the largest collection.

Questions one through three asked about quantities of resources. For complete accuracy, the media specialist may have needed to count his/her holdings, but the researcher accepted an estimated number.

Questions four through six dealt with adequacy of the collection in support of the school's social studies curriculum. A five point scale was used, and response categories ranged from "very inadequate" to "far in excess," with "about right" as a mid-point.

Questions seven through nine asked about faculty and student requests for each geographic item. As in question two, a five point scale was used to record the range of answers, from "never" to "very frequently," with "occasionally" as a mid-point.

The questionnaire was sent to media specialists in the public elementary schools in four Area Education Agencies in Iowa. These four agencies are Area 1, Area 6, Area 13, Area 16. Each of these Area Education Agencies in the sample is geographically separate from the others and contains large and small school districts.

The Iowa Education Directory was used to obtain names and addresses of elementary schools in the four Area Education Agencies. The Basic Education Data Survey list of librarians and audio-visual specialists was used to obtain names of the elementary media specialists.

The questionnaire was sent to the media specialist(s) in each school district, and he/she was asked to read and answer all questions, to the best of his/her ability. The questionnaire was included with a request for prompt return (10 days) and a stamped envelope was enclosed.

Due to an intitally poor response from AEA 13, follow-up reminder postcards were sent to the six media specialists in AEA 13. A ten day period for return of questionnaires had been allowed, and actual response times varied from three days to twenty-five days. At no point was the media specialist asked to divulge his/her identity, but the media specialists were asked to supply AEA numbers.

CHAPTER 4

Analysis of the Data

Data presented in this chapter were obtained from questionnaires that were sent to 41 elementary media specialists in public elementary schools in four Area Education Agencies in Iowa. These four agencies, AEA 1, AEA 6, AEA 13, and AEA 16, were chosen to give a different geographical sampling with a range of school district sizes (see Appendix I, map).

The Basic Education Data Survey list was used to obtain a population of 41 elementary media specialists, serving any combination of grades K-6, but excluding grades 7 and above. By AEA, this total of 41 amounted to the following subtotals: AEA 1-23, AEA 6-9, AEA 13-6, AEA 16-3. The wide diversity in the number of elementary media specialists per AEA exists primarily due to varying population densities. AEA 13 and AEA 16 are areas of the state with lower population densities, rural in nature, with additional high percentages of retired persons. In addition, elementary school media specialists are not required by law, so low tax base rural economic areas such as AEA 16 would be less inclined than some other AEA districts to go beyond the requirement of the law. A total of 30 elementary media specialists responded to this survey which was a seventy-three (73) percent return.

Table 1 shows the number and percentage of media specialists who returned questionnaires in each Area Education Agency.

Table 1
Number and Percent of Respondents
By Area Education Agency

AEA	Media Specialists Contacted	Media Specialists Responding	Percent
1	23	16	70
6	9	9	100
13	6	3	50
16	3	2	67
Total	41	30	73

Table 2 shows the response to survey questions related to maps.

Hypothesis 1^a predicted a majority response of "20-29" maps currently contained within each collection, and this was rejected. The category, "0-9" maps, drew 60% of the responses from elementary media specialists in all four AEA media center groups.

Hypothesis 1^b predicted a majority response of "about right" on the question of adequacy of map resources, and this was accepted. The "about right" category had a seventy (70) percent response rate for the total of schools and was also the majority response in each AEA. "Inadequate" had the next highest response rate (17%) and the "far in excess" category had no responses.

Hypothesis 1^c predicted a majority response of "seldom," and was rejected. Only thirty three (33) percent of all media specialists responding indicated that they "seldom" received requests for maps; forty (40) percent indicated they occasionally received requests.

Table 2
Number, Adequacy and Requests
For Maps in Elementary School Media
Center Collections by AEA

Number of Maps	Area Education Agency				Total Number	Percent
	1	6	13	16		
0-9	8	7	2	1	18	60
10-19	4	0	0	0	4	13
20-29	1	2	0	0	3	10
30-39	0	0	0	0	0	0
40+	3	0	1	1	5	17
Total	16	9	3	2	30	100
Adequacy of Maps						
Far in Excess	0	0	0	0	0	0
Slight Excess	2	1	0	0	3	10
About Right	11	5	3	2	21	70
Inadequate	2	3	0	0	5	17
Very Inadequate	1	0	0	0	1	3
Total	16	9	3	2	30	100
Requests for Maps						
Very Frequently	2	0	0	0	2	7
Frequently	2	1	1	0	4	13
Occasionally	6	3	2	1	12	40
Seldom	5	5	0	0	10	33
Never	1	0	0	1	2	7
Total	16	9	3	2	30	100

However, five of nine (56%) of the media specialists in AEA 6 did indicate that they "seldom" received map requests.

An examination of Table 2 reveals some interesting information on map quantities, particularly as they relate to the collections of the respondents from AEA 13 and AEA 16. The quantity in the map categories checked by respondents from these two AEA's represent opposite extremes in holdings. Out of five respondents, three marked map totals of "0-9" while the remaining two designated holdings of "40+."

In summarizing briefly the data from Table 2, a majority of the elementary media specialists in the four AEA's "occasionally" or "seldom" receive requests for maps, and their 9 maps or less are "about right" to meet the needs of the faculty and students.

Table 3 displays survey responses for the questions about globes in elementary school media center collections.

Hypothesis 2^a predicted a majority response of "one" globe currently contained within each collection, and this was rejected. No single response category drew a majority, although the choice "4+" was chosen by 47% of the respondents.

A difference in numbers of globes exists among the media center collections in the four AEA's. Sixty-three percent of the responding media specialists in AEA 1 reported four or more globes in their collections, while responses from the other AEA's varied from 0% to 33%.

Hypothesis $H2^b$ predicted a majority response of "about right" on the question of adequacy of globe collections, and this was accepted (70%). The response categories at opposite ends "far in excess," and "very

Table 3
Number, Adequacy and Requests
For Globes in Elementary Media
Center Collections By AEA

Number of Globes	Area Education Agency				Total Number	Percent
	1	6	13	16		
0	0	1	0	0	1	3
1	1	3	2	2	8	27
2	3	1	0	0	4	13
3	2	1	0	0	3	10
4+	10	3	1	0	14	47
Total	16	9	3	2	30	100
Adequacy of Globes						
Far in Excess	0	0	0	0	0	0
Slight Excess	1	1	0	0	2	7
About Right	12	5	2	2	21	70
Inadequate	3	3	1	0	7	23
Very Inadequate	0	0	0	0	0	0
Total	16	9	3	2	30	100
Requests for Globes						
Very Frequently	2	0	0	0	2	7
Frequently	2	2	0	0	4	13
Occasionally	4	3	2	1	10	33
Seldom	7	3	1	1	12	40
Never	1	1	0	0	2	7
Total	16	9	3	2	30	100

inadequate" were not checked by any respondent in any AEA. The response "inadequate" was chosen by 23% of the respondents.

Hypothesis 2^c predicted a majority response of "seldom" on the question of faculty and student requests for globes, and this was rejected. However, the predicted response category, "seldom," was picked by more media specialists, 40%; the next closest response was 33%.

In summarizing Table 3, 57% of the respondents had 3 or more globes in the media center collections, which they believe "about right" to meet the occasional or seldom received requests from faculty and students. One media specialist in AEA 6 stated "0" holdings of globes, and "about right" on the question of curriculum support given by the present globe collection!

Table 4 displays survey responses for the questions about atlases in elementary school media center collections.

Hypothesis 3^a predicted a majority response of "three-four" atlases, and this was rejected. Twenty eight (28) percent of the collections contain "5-6" or "7-8" atlases and twenty four (24) percent have "9+" atlases. Eighty (80) percent of the collections have a higher number of atlases than predicted by this researcher.

Hypothesis 3^b predicted a majority response of "inadequate" on the question of adequacy of each atlas collection, and this was strongly rejected. The response, "about right," was chosen by 77% of the respondents. The response "far in excess" was not chosen by any respondent, and "slight excess" was chosen by a single media specialist (3%).

Table 4
Number, Adequacy and Requests
For Atlases in Elementary School Media
Center Collections By AEA

Number of Atlases	Area Education Agency				Total Number	Percent
	1	6	13	16		
0-2	1	0	0	0	1	3
3-4	2	3	0	0	5	17
5-6	3	2	2	1	8	28
7-8	6	2	0	0	8	28
9+	4	2	0	1	7	24
Total	16	9	2(a)	2	29	100

(a)Although three questionnaires were returned from AEA 13, one of the respondents did not answer question No. 3.

Adequacy of Atlases

Far in Excess	0	0	0	0	0	0
Slight Excess	0	0	0	1	1	3
About Right	13	6	3	1	23	77
Inadequate	3	2	0	0	5	17
Very Inadequate	0	1	0	0	1	3
Total	16	9	3	2	30	100

Requests for Atlases

Very Frequently	2	1	0	1	4	13
Frequently	3	5	3	1	12	40
Occasionally	6	1	0	0	7	23
Seldom	4	2	0	0	6	20
Never	1	0	0	0	1	3
Total	16	9	3	2	30	100

Hypothesis 3^{0} predicted a majority response of "occasionally" on the question of faculty and student requests for atlases, and this was rejected. The single most checked response category was "frequently," chosen by 40% of the media specialists. All of the responding media specialists in AEA 13 and AEA 16 reported receiving requests for atlases "frequently" or "very frequently."

In summary, Table 4 shows that 80% of the responding media specialists believe five or more atlases are "about right" to support the curriculum. Faculty and students "occasionally" or "frequently" request to use atlases in the media centers.

CHAPTER 5

Summary, Conclusions, and Recommendations

The purpose of this study was to seek answers to three questions:

1. What quantities of maps, globes, and atlases are currently in the collections of elementary media centers in four Area Education Agencies in Iowa?
2. Do the elementary media specialists view their holdings of maps, globes, and atlases as adequate to support their districts' curriculum goals in the social studies?
3. How often do the elementary media specialists receive faculty and student requests for maps, globes, and atlases?

Data for this survey were obtained from questionnaires that were sent to elementary media specialists in four geographically separate Area Education Agencies in Iowa. The geographical location made some slight differences in the results. As an example, both responding groups from AEA 1 and AEA 6 (eastern and central) report more globes per center than the media specialists from AEA 13 and AEA 16 (southwestern and southeastern). Furthermore, no responding media specialist from AEA 13 reported an atlas collection of more than six atlases, while 63% of the respondents from AEA 1 reported 7 atlases or more. Regardless of differences in reported quantities, media specialists view their present numbers of globes as giving adequate support to geography and social studies.

However, it was found that 100% of the media specialists in AEA 13 cite "frequent" requests for atlases, while only 31% of the AEA 1 group marked this same response or the higher "very frequently" category.

A rather surprisingly even spread of responses was given for reported quantities of atlases. All response categories were checked and the breakdown by category percentage was as follows: "0-2," 3%; "3-4," 17%; "5-6," 28%; "7-8," 28%; "9+," 24%. In spite of the spread of reported quantities, a significant 77% reported their atlas collections were "about right" to meet the demands placed upon them.

The above example should effectively dispel the idea that it is possible to draw firm numerical conclusions about how many maps, globes, or atlases are desirable in a "typical" elementary media center. Only the most nebulous and tentative numerical conclusions could be drawn from such a small population, with so many differing situations and variables. Some of these variables encompass district size, relative district wealth, differing educational goals, training, and instructional methods, to name a very few. However, it is heartening to note that respondents give their collections good marks for adequately meeting the demands students and faculty place upon them. Regardless of collection size (and quantities certainly do vary) this is perhaps the most accurate barometer of completeness and practical utility.

Obviously, media specialists stretch their resources to meet needs. But the old idea about not needing certain resources not presently available is not valid.

The researcher found it personally disappointing as well as unexpected that a majority of responding media specialists view a minimum (0-9) map collection as adequate to handle reference and project assignments in their media centers. Personal experience by the researcher has lead to the conclusion that maps are an under-used library resource because they are not emphasized and unavailable for home use by the student. The low map collection numbers reported in this survey may reflect a low priority given them by media specialists, who receive few suggestions for their use or display in the media center. It is also possible that some map collections (and globes, and atlases) are held by individual classroom instructors and are not a part of the media center's collection. With concrete numerical guidelines about maps virtually nonexistant, such a situation as outlined above should not be considered extraordinary.

The difficulty the researcher had in arriving at any conclusions about quantities of maps and atlases was further borne out by the reported quantities of globes. The largest single response category on the question of numbers of globes was "4+," with 47% responding in this way. The next response in order of preference was "1" with a 27% response rate. Whether their centers' hold one or several, most media specialists seem satisfied with the number of globes.

It must be noted at this point that the structure of the questions in the survey instrument may have had a bearing on how they were answered. Questions 1, 2, and 3 asked for quantities of materials, and responses were channeled into five categories, one of which covered a potential numerical infinity. Questions 7, 8, and 9 also dealt with

numerical values, in this case frequency of requests for geography materials, but in this instance the numerical values were expressed as numerically descriptive adverbs, such as "frequently" and "occasionally."

Limited experience on the part of the researcher, coupled with an almost total absence of previously published material on what to expect regarding maps, globes, and atlases, lead the researcher to formulate some hypotheses which could only be called conjecture, at best. Only two of the nine hypotheses were accepted. Any further inquiry into this topic on the part of the researcher would be accompanied by a more accurate appraisal of what to expect.

Questions 4, 5, and 6 might be construed as being subject to greater error and/or subjective reasoning since the respondent had to gauge adequacy of curriculum support based on varying degrees of experience, training, and professional involvement. The researcher expected the majority of responses to be in the "about right" category, and this is what happened. On the one hand, for reasons of professional pride, respondents would tend not to term their collections "very inadequate." On the other hand, responding media specialists would be reluctant to go to the other extreme and claim the collection of geography materials was "far in excess of need." In the on-going and prevalent budgetary struggle for media center funding, no media specialist may be willing or able to acknowledge on paper that he/she holds an unnecessary surplus of materials.

Recommendations

The research survey results could be used as an aid in requesting additional funds for the purchase of maps, globes, and atlases for a media center. This study has intangible value in that it serves as a reminder to media specialists to focus on important, but sometimes underused materials in their collections.

Although extremely significant geographical differences among AEA's were not found by the researcher, a further detailed study of geography resource material quantities, uses, and support patterns in AEA 1, and AEA 13 elementary media centers would prove entertaining, if not enlightening.

A possible future study might also include classroom collections of maps, globes, and atlases. Another research study could survey those elementary media centers not staffed by professional media specialists and this would probably yield different findings from the present study.

Geography resources in elementary media centers in Iowa should and will continue to hold a position of some importance, based on availability, curriculum objectives, and quantities.

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APPENDIX A

Cover Letter

903 10th Avenue
Charles City, Iowa 50616
Date

Name
School
Address

Dear _____:

I am conducting a survey of the geographic materials included in the collections of elementary school media centers in four Area Education Agencies in Iowa. This data will be used in a research paper to fulfill the requirements for the Master of Arts Degree, Department of Library Science, University of Northern Iowa.

I would appreciate your giving this questionnaire your careful attention, and returning it to me in the stamped, self-addressed envelope.

The answers to this questionnaire will remain confidential; names of neither participants nor schools will be used in the resulting paper. Results will only be tabulated by individual AEA.

Thank you very much for your help in the completion of this project.

Sincerely yours,

Leon D. Carson

Enclosures

APPENDIX B

Data Instrument

A Survey of Maps, Globes, and Atlases
in Elementary Media Centers in
Four Area Education Agencies in Iowa

In completing this questionnaire, where actual quantities are requested, accurate estimation will suffice, if a count would prove time-consuming. Please do not include numbers of maps, globes and atlases which are not a part of the media center collection. If you serve more than one center, please base your answers on the media center you consider your major center, based on collection size, number of students served, proximity to your office, or time you spend working there, etc. Your replies will be confidential, and no names or schools will be identified in the final report.

Please check ( ) the appropriate response category for questions 1-9.

1. How many maps are in the media center's collection?

_____ 0-9
_____ 10-19
_____ 20-29
_____ 30-39
_____ 40 and over

2. How many globes are in the media center's collection?

_____ 0
_____ 1
_____ 2
_____ 3
_____ 4 and over

3. How many atlases are in the media center's collection?

_____ 0-2
_____ 3-4
_____ 5-6
_____ 7-8
_____ 9 and over

4. To support the school district's curriculum goals, present map quantities are:

_____ far in excess of need
_____ slightly in excess
_____ about right
_____ inadequate
_____ very inadequate

5. To support the school district's curriculum goals, present globe quantities are:

_____ far in excess of need
_____ slightly in excess
_____ about right
_____ inadequate
_____ very inadequate

6. To support the school district's curriculum goals, present atlas quantities are:

_____ far in excess of need
_____ slightly in excess
_____ about right
_____ inadequate
_____ very inadequate

7. Faculty and student requests for maps are received:

_____ very frequently
_____ frequently
_____ occasionally
_____ seldom
_____ never

8. Faculty and student requests for globes are received:

_____ very frequently
_____ frequently
_____ occasionally
_____ seldom
_____ never

9. Faculty and student requests for atalses are received:

_____ very frequently
_____ frequently
_____ occasionally
_____ seldom
_____ never

10. What Area Education Agency is your center located in ? _____

Thank you for your participation in answering the questions for this research study. Please enclose the questionnaire in the stamped, self-addressed envelope and return by _____ to:

Leon D. Carson
903 10th Avenue
Charles City, Iowa 50616

APPENDIX C

Map - Iowa's Area Education Agencies

Area Education Agencies